

FALLACIES

Fallacies are part of the Inference Analysis stage. The argument is checked for fallacious reasoning during the final stage of inference analysis. It is not done before this point because some kinds of fallacy can only occur in certain types of argument. For example, a *hasty generalization* fallacy can only happen if there is a generalization in the argument's conclusion. As a result, only an inductive argument by example can commit the hasty generalization fallacy. Knowing how to determine the strength of the inference link between premises and conclusion helps you determine whether or not it commits this fallacy because a weak link will suggest its presence. By contrast, the *jumping to conclusions* fallacy is more general and so can apply to a variety of arguments.

Fallacious patterns of erroneous reasoning come in a variety of types. The following list of fallacies provides examples of each type. The list is divided into categories, which group related fallacies and also suggest the point in the analysis at which a particular kind of fallacy will be most apparent. When identifying fallacies, it is important to schematize and identify the kind of argument involved since some fallacies, e.g. the fallacies of inference, only apply to particular argument types.

1. **Fallacies are errors or problems in the inference link between premises and conclusion.**
2. **Fallacies are NOT about premises but reflect the strength or reliability of the argument's inference.**
3. **Fallacies are NOT counterexamples for the truth-value of the premises.** Confusing 'fallacies' with truth-value or plausibility of premises leads to premature plausibility analysis and weakens the effectiveness of the whole process.
4. **Fallacy' does not refer to premises or statements, which are true or false, or logical vulnerabilities, which reflect the attitude of the person making the argument.** The adjective 'fallacious' DOES NOT refer to the truth or falsity of premises. However, fallacies often reflect particular logical vulnerabilities. For example, prejudice often leads to the fallacy of *hasty generalization* or *jumping to conclusions*.

MASTER LIST OF FALLACIES

Semantical fallacies involve various ways to misuse language through premises that are semantically ambiguous, loaded or incomplete. These usually become obvious during schematization and should be noted, as they become important in evaluating the truth of the premises during Plausibility Analysis.

1. **BEGGING THE QUESTION:** An argument in which the conclusion is implied or already assumed in the premises. For example: God wrote the Bible, so what the Bible says about God must be true.
2. **EQUIVOCATION:** This fallacy results from semantical ambiguity. The argument uses the ambiguous nature of a word or phrase to shift the meaning in such a way as to make the reason offered appear more convincing. See example in Argument from Analogy section.
3. **LOADED LANGUAGE:** An argument which uses words that have strongly negative or positive meanings. For example, in a debate on abortion, calling abortion clinic doctors 'baby killers.'

4. **SUPPRESSED EVIDENCE:** An argument whose premises exclude crucial information in order to permit the inference of a conclusion that is contradicted by the excluded information. For example, taking things out of context.
5. **SLANTING:** A form of misrepresentation in which a true statement is made, but made in such a way as to suggest that something is not true or to give a false description through manipulation of connotation.
6. **WEASEL WORDS:** A counter argument which attempts to escape a refutation of the argument by changing the meaning of a key word, and thus unfairly accusing the refuting argument of committing equivocation.
7. **AMPHIBOLY:** A fallacy involving syntactical ambiguity by deliberately misusing implications. Example: 'Three out of four doctors' implying 75% of all doctors.

Fallacies of Irrelevance are arguments in which the premises are irrelevant to the conclusion. These fallacies usually become apparent after the argument is schematized and you begin the process of trying to figure out what kind of an argument you are dealing with.

1. **AD HOMINEM:** An attempt to refute an argument by attacking the person not the argument
2. **APPEAL TO AUTHORITY:** An argument which relies on the assertions of an authority (person or group) who are either unqualified or unreliable. For example, quoting a professor of literature on the value of vitamins for a healthy skin.
3. **APPEAL TO THE PEOPLE:** An argument whose conclusion is claimed to be true because it is commonly or traditionally believed. (One is required to show that the tradition or belief is reliable) AKA **COMMON BELIEF** or **PAST BELIEF**. For example, everybody know that politicians are self serving hypocrites.
4. **APPEAL TO FORCE:** An argument in which a threat is used to win the listener's acceptance of the conclusion. Variant: the **Argument by Volume** in which he who shouts loudest wins. For example, I'll never speak to you again if you marry him!
5. **APPEAL TO EMOTION:** An argument in which an irrelevant appeal to the listener's emotions such as pity, fear, self-interest, or vanity is used.
6. **APPEAL TO IGNORANCE:** An argument invoked to conclude that some statement is true (or false) because no evidence exists that the statement is false (or true). For example, we can't prove the existence of God, so God must not exist.
7. **RED HERRING:** A complex argument that contains an irrelevant premise making a claim about a controversial issue which is used to divert the listener's attention away from the original (usually weak) argument.
8. **NON-SEQUITUR:** An argument in which the premises have no direct relationship or relevance to the conclusion. This one is particularly popular among politicians and advertising executives.

9. **TWO WRONGS MAKE A RIGHT:** An argument which tries to justify an apparently wrong action by charges of a similar wrong. The underlying assumption is: if they do it, then we can do it too and are somehow justified. For example, governments have the right to fight terrorists by using their own illegal and immoral methods.

Fallacies of Inference are arguments presented as having strong or valid inference (i.e. strong support for the conclusion) when, in fact, they are either invalid or probabilistically very weak. Note: Correct identification of the type of argument is crucial to recognizing these fallacies. These fallacies are easiest to recognize during the Inference stage of argument analysis after the type of argument has been identified. [The types of argument to which various fallacies apply have been highlighted; for example, if an argument is abductive, it is not likely to contain a false analogy]

1. **FALSE ANALOGY:** A bad **argument from analogy** (Inductive) in which the properties being compared are not relevant to the possession of the inferred property or there is a relevant dis-analogy.
2. **HASTY GENERALIZATION:** A bad **argument by example** (Inductive) in which a generalization is formed on the basis of an unrepresentative sample. Note: Sometimes mistaken for Jumping to Conclusions. If there is no generalization made or implied by the argument, this fallacy does not apply.
3. **JUMPING TO CONCLUSIONS:** An argument in which the conclusion is reached on the basis of insufficient evidence. AKA QUESTIONABLE CAUSE
4. **AFTER-THEREFORE-BECAUSE** (*post, ergo propter hoc*) A bad **abductive** argument in which causation is hastily inferred from a very weak correlation. Just because one event follows another, does not mean that the first event caused the second.
5. **FAR FETCHED HYPOTHESIS:** An **abductive** argument which accepts a particular hypothesis, when a more acceptable hypothesis, or one more strongly based in fact, is available. Note: Exaggeration for the sake of emphasis or satire is not necessarily a fallacy.
6. **CONTRARY TO FACT HYPOTHESIS:** An argument which states with an unreasonable degree of certainty the results of an event that might have occurred but did not.
7. **DENYING ANTECEDENT:** An invalid form of the conditional argument in which the second premise denies the antecedent of the first premise and the conclusion denies the consequent. This fallacy applies only to **deductive arguments** of a particular type.
8. **AFFIRMING CONSEQUENT:** An invalid form of the conditional argument in which the second premise affirms the consequent of the first premise and the conclusion affirms the antecedent. This fallacy applies only to **deductive arguments** of a particular type.

9. **DIVISION:** This fallacy is committed when we conclude that any part of a particular whole must have a characteristic because the whole has that characteristic. Since this fallacy is concerned with samples and generalizations, it applies to **inductive arguments**.
10. **COMPOSITION:** This fallacy involves the mistaken assumption that what is true of the part is true of the whole or other members of the whole. It raises the issue of *representative sample*. Since this fallacy is concerned with samples and generalizations, it applies to **inductive arguments**.

Fallacies of False Premise are arguments involving premises that are false and therefore misleading. These fallacies are most obvious during the Plausibility stage of argument analysis where the truth of the premises comes under examination.

1. **STRAW MAN:** An argument in which one misrepresents the opponent's view, making it seem more vulnerable than it is, and attacks the misrepresentation.
2. **SLIPPERY SLOPE AKA Black And White AKA Domino Theory:** An argument that involves an explicit or implicit premise claiming falsely that a causal chain from A to X will or is very likely to occur if A occurs, and suggests that, since X is a bad consequence (or false), one ought to refrain from doing A (or reject A as false). For example, if we give patients a bill of rights then the HMOs will raise their rates. If the HMO raise their rates, then businesses will cut back on their employee coverage or pass along the added cost to their employees. If employers do that then more people with children will have to choose between income and health insurance. So if we give patients a bill of rights then even more people will have to get by without health insurance which makes the problem worse not better.
3. **FALSE DILEMMA:** An argument that makes the mistaken assumption that there are only two alternatives available, and is invoked to conclude that one of those alternatives must be followed or is true because the other is unacceptable or false. Normative arguments are particularly vulnerable to this fallacy. For example, If I can't get a driver's license, my social life will be ruined.